

foundation. It is an accomplishment of which we may all be proud and no longer merits any but wholehearted and enthusiastic support of our entire membership as well as the devoted and meticulous rendering under it of professional services by each and every one of us.

Today we have proved in California that our great middle-income group of citizens can be provided with superior medical care under a budget system of payment. We have proved that government is not needed as a middleman to insure the delivery of this service. We have proved that the physicians themselves can operate their own business of meeting the economic as well as the medical needs of their patients. We have proved that the public can be served when the physicians actually achieve the desire to serve.

Evidence of this is mounting as we extend our services to an increasingly large percentage of the public and our problems appear to be correspondingly nearer of solution. We have accepted the responsibility of public service which the public itself has placed upon us.

We have all seen the statement made repeatedly that the public is divided into three categories—the rich, the middle-income group and the indigent. Likewise, we have heard it said many times the rich and the indigent receive the best in medical care while the middle-income group fail to receive this care because of the lack of funds with which to pay for it. We as physicians are now not only willing to accept fees from the well-to-do and provide service free to the indigent, but are united and similarly willing to provide a prepayment service to that great group of middle-income citizens between these two extremes.

Possibly those among us who have sons or daughters either practicing or preparing to practice medicine are more keenly aware of the medico-economic problems not as yet completely solved. One of the fundamental reasons why American medicine has become so outstanding is that we doctors as a group throughout the nation have been willing to share our scientific knowledge freely with our fellows. This stimulating exchange of systematic thought has contributed largely to our present-day standards of medical practice. We parents want to make sure our children receive every possible benefit of our own accumulated professional experience so that they will be enabled to start in where we leave off. If not only those with doctor sons and daughters, but all in our ranks would apply this same principle of sharing of ideas and experience on the economic side of our profession, the lengths to which our calling could develop are without limit.

In leaving office as president of this Association, I wish to impress upon you this thought: medicine has obligations as well as privileges and unless we continue to meet those obligations our profession will cease to make the splendid progress which it is now showing. As there is no standing still, failure to continue our forward march will inevitably result in regression. From this it would take a long period of time to recover.

On the other hand if each one of us continues to do his part and if each of us keeps on performing in the true spirit of public service, the years ahead will see unlimited achievements in medical practice and in the health of our common master, the public.

Room 423, at 760 Market Street.

American life storms about us daily, and is slow to find a tongue.

—Emerson, *Letters and Social Aims: Poetry and Imagination*.

The good man should not live as long as it pleases him, but as long as he ought.

—Seneca, *Epistulae ad Lucilium*. Epist. civ, 3.

DOES THE PUBLIC WANT HEALTH?*

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IT is a frequent occurrence for a health officer to receive letters from the public he serves. Consideration of these communications is of value as it frequently is a means of interpreting trends in public opinion. Many of the letters, in the nature of complaints, are groundless and must be ignored as they represent personal grievances only. Others are sufficiently sound to command attention and inspire action. Such a letter was recently received. It was in the form of a simple and rather embarrassing question:

"Why, when the method of preventing diphtheria is so well known and accepted, do cases and deaths still occur?"

Upon first thought it might appear simple to answer this question. One might philosophize and satisfy his ego by pointing out that actually there are relatively few diphtheria cases and deaths compared to those that occurred a few years ago. It might be pointed out that true perfection in anything rarely occurs and that we normally should expect a few "exceptions to the rule." Yet, the question is not answered.

It has deeper implications. It applies not only to diphtheria, but to other preventable diseases. We still have smallpox, whooping cough, tuberculosis, and the venereal diseases. They are all preventable, yet they still plague our populace. Why?

There has certainly been no lack of interest recently in the whole medical program. State and federal legislation has been proposed which calls for radical changes. But would such changes answer the question? Most of the proposed legislation is based on the premise that our medical program is deficient because it is either inadequate or unavailable to all.

Let us, just for the purpose of discussion, assume that we did have a medical-care program which was completely adequate and freely available to all. Would preventable diseases vanish and would all persons immediately be provided with the medical care that they might need? I am certain that the answer of men who have worked in the public health field would be in the negative.

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Many examples may be cited to account for this pessimistic attitude. For years health departments have been conducting free pre-natal and well-baby conferences for needy individuals. Do all persons who are eligible attend regularly and receive their benefits? Unfortunately they do not and usually those who are in greatest need never appear.

Some time ago one of the larger health departments in the state offered free annual physical examinations to all its employees. It was suggested that each employee make an appointment to have the examination either on or very near to his birthday, as this would facilitate his remembering it. About 1 per cent of the employees of the department took advantage of the opportunity. The program has been discontinued due to lack of interest.

For many years immunization against diphtheria and vaccination against smallpox has been offered in many of our public schools at no cost to the individual. Have we had 100 per cent acceptance? Unfortunately, we have not.

Tuberculosis has received great publicity in recent years. The cause and methods of prevention and cure are well known. Diagnostic clinics and treatment are available to all, yet a recent survey in the City of Los An-

* Chairman's Address. Given before the Section on Public Health at the Seventy-fifth Annual Session of the California Medical Association, Los Angeles, May 7-10, 1946.

geles revealed that only 16.8 per cent of cases reported were in the minimal stage and 83.2 per cent of cases reported were either moderately or far advanced.

It is now accepted that cancer is curable if discovered in the early stages. The death rate from this disease, however, clearly indicates that cases are not being seen early. Competent physicians are available in most areas to diagnose and treat cancer. Yet, all too frequently, the patient consults his physician too late.

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Among the most unpopular responsibilities of a health officer are the isolation of communicable diseases and the maintenance of sanitary conditions in public places. The action of the quarantine officer is resented, because it interferes with personal liberties. The individual affected seldom considers the fact that his own predicament is the result of some other person's carelessness or negligence in failing to observe isolation precautions. Instances have even occurred where the sufferer from a contagious disease has knowingly exposed others, foolishly feeling that he was "getting even."

Sanitary inspectors too frequently meet with resistance when they insist on scrupulous cleanliness in public eating establishments and proper sterilization of glassware, dishes, and utensils. This occurs in the face of the known fact that one serving of contaminated food may not only cause severe illness and even death, but may also put the responsible food establishment out of business.

Why do we experience this resistance from the public against those things that are known to be of benefit? Why do so many individuals present themselves for medical care only as a last resort? Is it because we are a nation of individualists who believe that disease is a misfortune that strikes only the other fellow? Is it because we are basically gamblers who are willing to take our chances with fate and, so long as we are well today, not worry about what may happen tomorrow? Or, is it because we placate ourselves by believing that we are health conscious and stoically observe all sound health principles and teachings except those which cause us inconvenience or interfere with our personal pleasures.

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Some time ago we had a rather interesting experience in our health department which may give us a lead to the solution of our problem. Following the onset of war we were confronted with a sudden and overwhelming increase in population. Housing conditions reached a deplorable state due to overcrowding. Our inspectors reported intolerable conditions existing in our eating places due both to lack of sufficient help and to the demand for feeding an increased number of persons. Customary methods of enforcement of sanitary regulations failed entirely to remedy the situation. In desperation the department adopted the policy of citing offenders directly to court where fines and jail sentences were imposed. Conditions improved rapidly but there was vociferous resentment on the part of those who suffered the indignity of being haled into court. A meeting was held with representatives of the industries involved. To our surprise, after the dangers of insanitation were explained and the requirements of the health department outlined, the representatives expressed themselves as more than willing to remedy the situation. Lack of knowledge was largely responsible for the existence of the hazardous conditions. Following the meeting, courses of training for food handlers were established. These courses had the full support of the industry and were surprisingly well attended. Today our coöperation with the industry is excellent and very few court citations need to be issued.

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What has been learned in the field of sanitation may well be applied to the field of medicine. In fact the evolu-

tion of modern public health practices had its birth in the cleaning up of the environment. The development of public knowledge and acceptance of the advantages and opportunities of modern medicine had not kept pace with the development of the science.

Within recent years there has been nation-wide publicity and the collection of millions of dollars to combat poliomyelitis. Huge sums have been and are now being spent for research to find the cause and a reliable method of preventing the disease. But, should such a preventive agent be discovered, would it be universally used and would poliomyelitis vanish? If we judge by our experience with diphtheria, we must hang our heads and admit that it would not.

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Considering the facts which have been presented, we must be honest with ourselves and admit our failure in one phase of the field of medicine and public health. We have failed to develop and promote the public intellect sufficiently to demand and accept the medical benefits which are available to them.

Before we can ever realize the goal of a nation free from preventable diseases, we must expand greatly in the field of health education. The old adage about leading the horse to water, but not making him drink, is trite, but still basically sound and appropriate in this instance. Our populace will enjoy sound health only when it wants to and knows how to.

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The expenditure of huge sums of governmental funds to provide more hospitals, more health centers, and more doctors is not sufficient. A program must be developed which will inculcate into the very roots of each individual the sound knowledge of the desire for adequate medical care.

Such a program must be developed intelligently. It must be designed to teach the individual self-reliance and promote initiative. Too frequently in the past our programs have been designed only to provide services for the public. We have failed to make our services attractive, and desirable. The very nature of certain medical procedures is such as to cause apprehension. This fear must be dispelled by a sound and logical presentation of facts. It is quite true that a smallpox vaccination produces physical discomfort, yet the discomfort is infinitesimal when compared with the suffering that results from the disease.

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Two years ago we were confronted in Los Angeles with a sudden increase in diphtheria cases and deaths. To combat this increase, a concentrated immunization campaign was organized. Newspaper articles, short radio "plugs," posters, and talks before civic groups were all utilized in the campaign. In addition, a consent slip, on which was printed a statement outlining the nature, cause, and method of preventing the disease, was distributed to school children and to our clinic patrons. Private physicians coöperated in the campaign by stressing to their patients the importance of diphtheria prevention. The result? Immunizations in the public schools increased by 50 per cent; immunizations in our own clinics increased 100 per cent and practicing physicians reported that they were swamped by requests for diphtheria protection. Following the campaign there was a sharp drop in the incidence of diphtheria which has continued to date.

The above experience is cited as a small-scale example of what can be accomplished through health education. It is intriguing to speculate on what might be the result of a large-scale, nation-wide campaign devoted to sound health education.

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We have just emerged from a war for which we

mobilized 13 million men into one of the finest fighting organizations the world has ever known. We have never lost a war to mortal enemies, even though we have at times been slow at the start. We can also be victorious in our war against disease if we, as a nation, will to do so. We have not, however, really mustered our full potential strength for a crushing blow. Such a mobilization will require expert leadership and hard work. It is up to the medical profession, in all of its branches, to provide that leadership lest it be taken up by those less qualified to do so.

We can now answer the question as to why we still suffer from preventable disease. We suffer because we have never fully used all of the resources that are at our command. If we will but apply all of the known means for disease prevention we'll awaken one day to find that our common enemy has been vanquished. Then, and then only, will we have a nation free from preventable disease, which is a worthy goal and our rightful heritage.

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PROTEIN NEEDS OF THE AGED SURGICAL PATIENT*

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PREVAILING concepts of the nutritional needs of the surgical patient have undergone revolutionary change over the past decades. It is not a far cry to the day when water was systematically withheld from the patient for twelve to eighteen hours before operation, and usually for one or more days following operation. Furthermore, a postoperative period of starvation was considered scientific and viewed with complacency. Today every surgeon is conscious of the dynamic significance of water balance, the necessity of maintaining the caloric and electrolyte needs of the patient, and the place of the vitamins in assuring functional equilibrium.

The most recent contribution of biochemistry to the field of nutrition has concerned the protein substances. Indeed during the past few years a vast literature has developed in the field of protein metabolism, a subject which seems destined to assume a rôle of major importance in the entire field of medical practice.

If protein deficiencies are of common occurrence, there are special reasons why patients of advanced age should be prone to develop such deficits. It is therefore a subject which should engage the serious attention of the urologist, whose efforts are largely devoted to the surgery of geriatrics. The implications of the problem are far reaching and very complex. In this discourse we can only touch upon bare essentials, stressing particularly the more practical aspects of the subject.

THE NATURE OF PROTEINS AND THEIR USES

Proteins are the structural units of body tissues, and in turn the building blocks of proteins are the amino acids. The structure and properties of more than 40 amino acids have been identified, 22 of these being important to the body economy. Of the latter group 10 are classified as "essential amino acids," indicating that they are necessary for some essential physiological process. In fact the omission of any one of these essential amino acids is inimical to growth and life. Furthermore, the essential amino acids are exceptional in that they cannot be fabricated by the body in sufficient amounts to satisfy

its needs, hence they must be obtained ready made from the food ingested.

When protein food is taken by mouth its complex molecules are broken down by the proteolytic enzymes of digestion into simple diffusible compounds. The action of pepsin in the stomach hydrolyzes the molecule into proteoses and peptones. In the intestines these are further degraded into free amino acids, whence they enter the portal and general circulation. A certain portion of these circulating amino acids, depending upon the nutritional state of the individual, will be used to build new tissues and to augment the body stores of protein; the balance will be deaminated by the liver with the production of carbohydrate and non-protein nitrogen. The carbohydrate fraction contributes to the energy requirements of the body, while the non-protein nitrogen is eliminated in the urine. In caloric value a gram of protein is essentially equivalent to a gram of carbohydrate.

The minimal protein requirements of an individual is that amount necessary to keep him in nitrogen balance. This state exists when the nitrogen intake equals the nitrogen excreted. During a state of negative nitrogen balance the excretion of nitrogen is greater than the amount consumed. Barring an inability on the part of the individual to absorb proteins, this would mean either an inadequate ingestion or an increased breakdown of body proteins. The optimal diet should provide protein much in excess of the amount which is barely capable of maintaining nitrogen balance. A daily intake of one gram of protein per kilogram of body weight is considered an adequate daily ration for an average person.

Elman¹ has recently emphasized that all protein within the body is in a constant state of chemical activity, and that the older concept of great masses of inactive protein stores is untenable. A dynamic equilibrium exists between the blood proteins and the tissue proteins. It is essential that the circulating proteins in the blood stream are held at a fairly constant level, and the body proteins will make every sacrifice to maintain this blood level. The same author² has determined that a reduction of one gram in the total circulating plasma albumin indicates a loss of 30 grams of body protein. On the basis of these calculations, a reduction of no more than one-half grams per cent in the plasma albumin of a patient with normal blood volume could represent a loss of over 500 grams of albumin from the body. It is thus evident that any appreciable drop in the concentration of the serum albumin implies an impending exhaustion of body protein.

The circulating proteins are of two distinct groups, the albumin and the globulins. The latter group has been fractionated into fibrinogen and the alpha, beta and gamma globulins. Most authorities state the normal concentrations of these two groups as being from 4.0 to 5.5 gm. per 100 cc. for plasma albumin, from 1.5 to 3.0 gm. per 100 cc. for globulin, and the total plasma proteins running from 6.0 to 8.0 gm. per 100 cc. In instances of protein deficiency the plasma albumin is the chief variant. The globulins are less apt to drop below their norm; in fact they may be elevated at a time when total proteins are low, particularly during periods of sepsis and fever. Patients presenting total plasma proteins below 3 gms. per cent practically always succumb. The lowest concentrations which we personally have observed were in a chronic alcoholic with cirrhosis of the liver, in whom the blood levels shortly before death registered serum albumin 1.8 gm. per cent and the globulin 1.0 gm. per cent.

Aside from the fact that proteins are the chief component of muscles and all glandular structures, their various uses within the body are seemingly manifold. They control the distribution of the body fluids; they maintain the nourishing properties of the blood cells; they act as conveyors in the blood stream of many essen-

* Chairman's Address. Read before the Section on Urology at the Seventy-fifth Annual Session of the California Medical Association, Los Angeles, May 7-10, 1946.